

10 Tips for an Easy and Successful Installation

- 1. Keep it simple - there are 4 connections to make, and the tubing is color coded. VIDEO INSTRUCTIONS ARE AVAILABLE ONLINE (6 PARTS)
- 2. Have plenty of time, light, space, and towels before getting started. If everything goes well, you should be done in 45 minutes. However, if your feed water line is a different size, or if you don't have an extra hole for the faucet, it can take somewhat longer.
- 3. NEVER use plumber's putty, thread-lock, or anything else you wouldn't eat on any part of this system. You may use as much white Teflon plumber's tape as you like. If you use plumber's putty on your faucet, you will have disgusting and potentially toxic water for the life of the faucet.
- 4. Mount the faucet first, and when making the final connection, use the quick connect faucet adapter found in the bag of parts with the EZ adapter, tank valve, and drain clamp.
- 5. If you have a 3-hole sink and want to avoid drilling a 4th hole for the RO faucet, then get a single handle *kitchen* faucet. This will free up 2 holes, one of which you may use for the RO faucet, the other you can use for a soap dispenser or side sprayer.
- 6. Mount the Home Master® RO vertically so that the blue cap is on top. There is only one "blue cap" and it has only fitting at its top. Mount the (optional) permeate pump correctly nothing will work. There is a big arrow on the permeate pump, make sure it points up.
- 7. Mount the drain saddle on a vertical section of drain pipe. IF you have to mount the drain saddle on a horizontal section, then drill the hole on the top side of the pipe or at least at an angle where the drain water from the Home Master® RO drops down into the drain pipe. [Think of a manhole passage into the sewer] When making the connection from the system to the drain saddle - wrap the tubing around the drain pipe a few times, so that some loops of tubing are higher than the fitting.
- 8. DO NOT touch the air nipple on the side of the reserve tank. You may be tempted to check the pressure, or pump it up – don't. It already has plenty of air. Adding more will not boost flow, it will only decrease tank capacity.
- 9. Read the instructions thoroughly before beginning. There is allot of information there, some of which you may not need for your application. If you have questions – call or email. Email will usually be answered within hours even at night.
- 10. Have patience. Your new Home Master® RO may take some time to break in and start flowing. Make sure you fill, and drain, the reserve tank at least twice.

TUBING COLOR CODING

- | | |
|-----------------------|------------------------------|
| ORANGE—LINE IN | BLACK—TO STORAGE TANK |
| RED— TO DRAIN | BLUE—TO RO FAUCET |



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Home Master®
Reverse Osmosis System
Installation & Service Manual

- Home Master® Standard RO
- Home Master® Artesian Full Contact
- Home Master® IRON
- Home Master® UV
- Home Master® ULTRA
- Home Master® HydroPerfection



Home Master® RO Contents:

- 1 Assembled RO filter cluster
- 1 Storage tank
- 1 Tank valve
- 1 Drain saddle & gasket
- 1 Roll Teflon tape
- 1 Mounting clips & screws
- 1 Chrome long reach RO faucet (or custom faucet); faucet adapter fitting and hardware.
- 1 EZ adapter—feed water adapter 3/8" mc x 3/8" fc x 1/4" tube

General System Specifications

- Feed water: PSI 40 - 100 PSI
- Feed water Temperature: 40° - 100°(F)
- Max. Total Dissolved Solids (TDS): 2000 ppm
- Max. Hardness: 10 gpg
- pH limits: 4 - 10

Maintenance Schedule (see page 11)

- Replace filters — ANNUALLY**
- Sanitize tank & Check tank pressure (7 psi) — ANNUALLY**
- Inspect tubing and fittings for wear — ANNUALLY**
- Replace Membrane — 3-5 year replacement**

—VIDEO INSTALLATION INSTRUCTIONS AVAILABLE ONLINE—
www.theperfectwater.com/Installation-Instructions.html

System Location

The Home Master® RO may be installed under a sink, or in a basement within 10’ feet of the RO sink faucet as long as the Home Master® RO is not subjected to freezing temperatures (please see FAQs page for more basement location details). The Home Master® RO should be mounted vertically where the drain line out is at the bottom. Mount the reserve tank on a sturdy shelf, because it will weigh over thirty pounds when full.

Tools Required

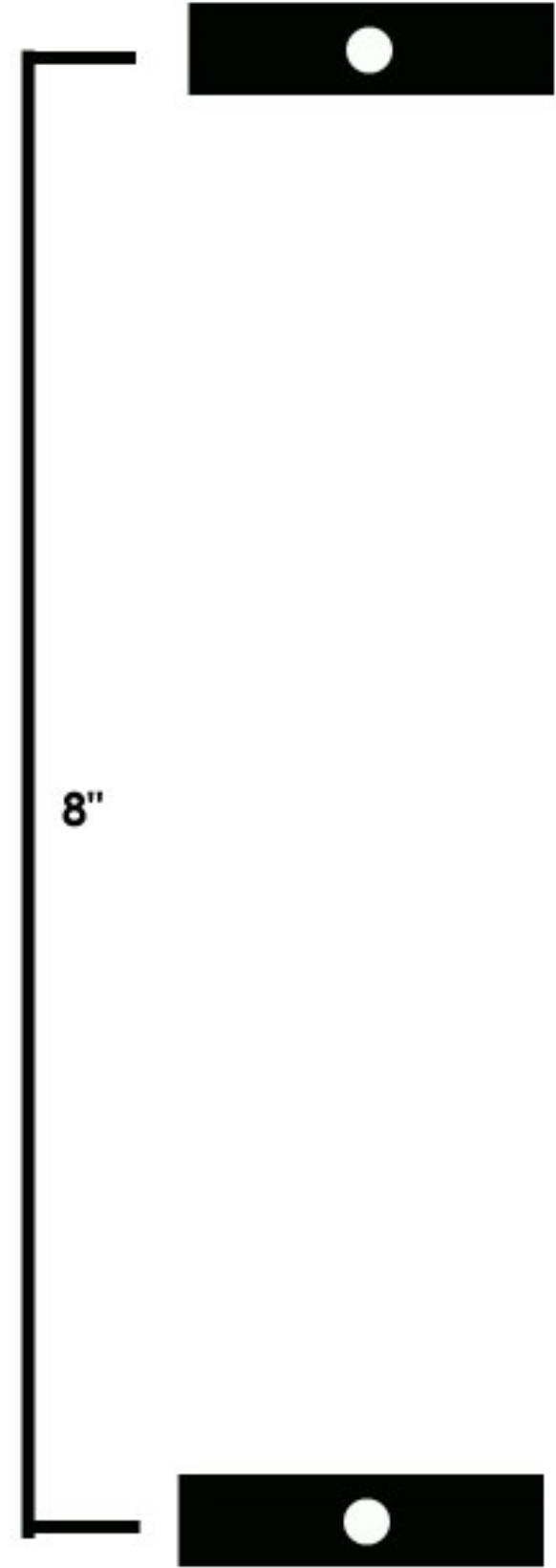
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|---|----------------------------|
| Safety glasses | Towels |
| Phillips screwdriver | Scissors |
| Medium Crescent wrench | Medium pliers |
| Felt tip pen or marker | Unscented (regular) bleach |
| Variable speed corded power drill (3/8" for the sink hole, 1/4" for the remainder) | |
| 1/4" metal drill bit w/ cobalt tip | |
| 1/2" metal drill bit w/ cobalt tip (not required if sink has a pre-drilled hole) | |
| 1/2" masonry drill bit (not required if sink has a pre-drilled hole, or if sink is not porcelain) | |

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ALLOW 6" CLEARANCE FROM TOP



ALLOW 6" CLEARANCE FROM BOTTOM

Drilling hole for RO faucet – porcelain sinks steps 1-5; stainless sinks steps 3-5

WARNING: Serious cracking and damage may occur to your sink even if instructions are followed exactly due to age and the imperfections inherent in natural materials. Instructions may not apply exactly to your sink. Use caution – sink may be slippery.

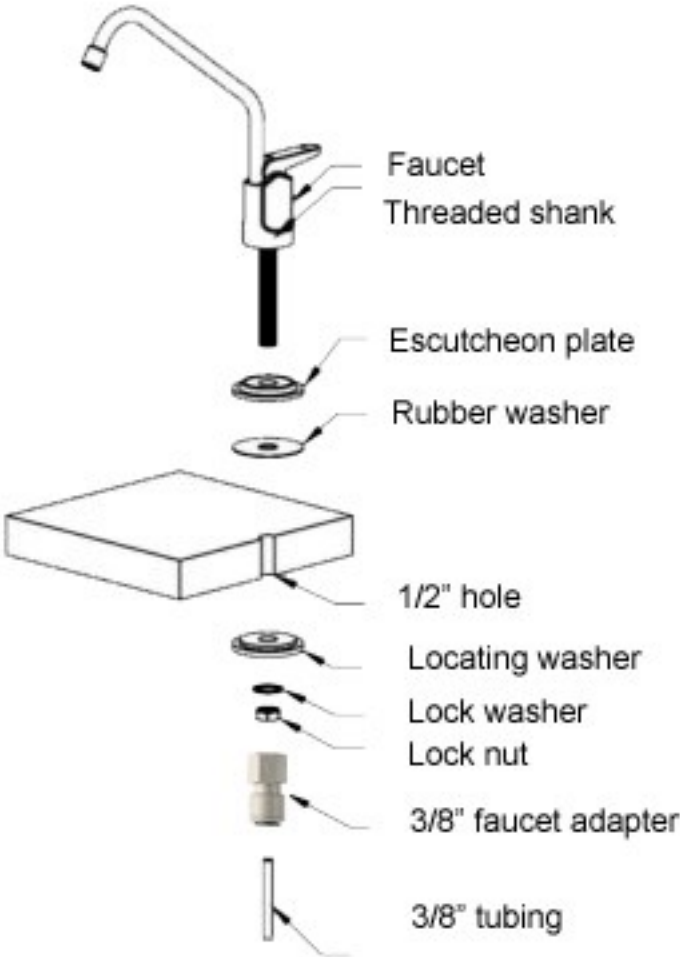


1. Remove base cover plate from RO faucet packaging. Line-up base cover plate with other sink faucets. Check underside of sink for spacing from trim, curvatures, and other obstacles. Don't place spigot too close to obstacles - leave yourself enough room under the sink to use hand tools. Either right or left side of the sink is OK provided previous conditions are met. Mark center of base cover plate with marker. Place towel underneath sink, below drilling site, to collect fillings. Always wear protective eyewear and gear while drilling, and while under sink.
2. Using ½" masonry bit and variable speed corded power drill, slowly begin drilling through the porcelain. Drill bit should be perpendicular to sink. Failure to do so may cause the drill bit to slip and cause bodily injury, and/or property damage. Rinse & dry drill bit tip and sink area with cool water for every 20 seconds of drilling to prevent drill bit overheating and sink damage. Small localized flaking or chipping may occur. **Use caution – drill bit may be very hot. DO NOT touch drill bit. Electrical hazard! DO NOT allow power drill electrical components to come into contact with water. Use caution – sink may be slippery.**
3. When metal is struck, switch to ¼" metal bit with cobalt tip. Drill bit should be perpendicular to sink. Failure to do so may cause the drill bit to slip and cause bodily injury, and/or property damage. Begin drilling to drill a hole all the way through the sink. Rinse & dry drill bit tip and sink area with cool water for every 20 seconds of drilling to prevent drill bit overheating and sink damage. Small localized flaking or chipping may occur.
4. When ¼" hole is completely drilled through, switch to ½" metal drill bit w/ cobalt tip. Drill bit should be perpendicular to sink. Failure to do so may cause the drill bit to slip and cause bodily injury, and/or property damage. Begin drilling to enlarge the ¼" hole to ½" all the way through the sink. Use caution when hole is near completion to avoid damaging sink surface. Rinse & dry drill bit tip and sink area with cool water for every 20 seconds of drilling to prevent drill bit overheating and sink damage. Small localized flaking or chipping may occur.
5. When ½" hole is drilled through completely, install RO faucet with provided mounting hardware. For more details, see mounting instructions enclosed with hardware. Connect Home Master® RO to RO faucet using Quick connect faucet adapter as outlined later.

Installing The Home Master® Reverse Osmosis System

1. Mount RO Faucet

1. Use existing spray hose hole, or Drill 1/2" hole in sink top. See page 3.
2. Slide escutcheon plate onto faucet shank.
3. Slide rubber washer onto faucet shank.
4. Insert shank through hole in sink.
5. Slide locating washer, followed by locking washer onto shank under sink.
6. Thread brass nut onto shank, position faucet and tighten nut.
7. Wrap threaded shank with Teflon tape 5-7 times.
8. Hand tighten the 3/8" RO faucet adapter



2. Install EZ adapter on cold water line -

Always wear protective eyewear while under sink. Locate the cold water angle-stop (the main water lines under the sink – one hot water, one cold water), and turn clock-wise to shut off the water. Locate 3/8" fitting, typically found on the line out of the angle-stop or where the existing line connects to the kitchen faucet. Disconnect the 3/8" fitting on either the angle-stop or the kitchen faucet. Use Teflon tape on the EZ adapter and the angle-stop male threads, and make sure o-rings are properly seated. Fit the EZ adapter and tighten. Make sure EZ adapter ball valve is in the closed position then check for water pressure & leaks on ball valve. Close EZ adapter valve, by turning the handle perpendicular to the tube opening as shown below. Open angle-stop valve by rotating angle-stop counter-clockwise. Have a bowl or cup nearby to catch water. Dry all parts, check for leaks, and snugness.

VIDEO INSTALLATION INSTRUCTIONS AVAILABLE ONLINE



Faucet Adapter

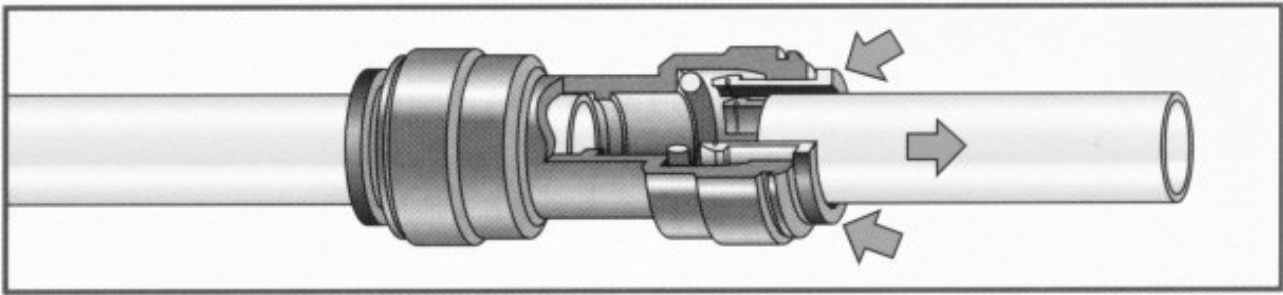


EZ Adapter on angle-stop



Tank Shut-off

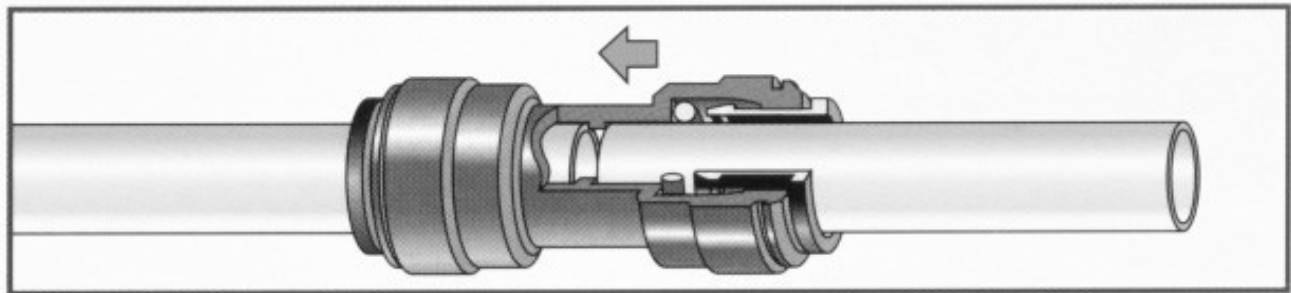
Push in collet and remove tube



To disconnect, ensure the system is depressurized before removing the tube. Push in collet squarely against face of fitting. With the collet held in this position, the tube can be removed.

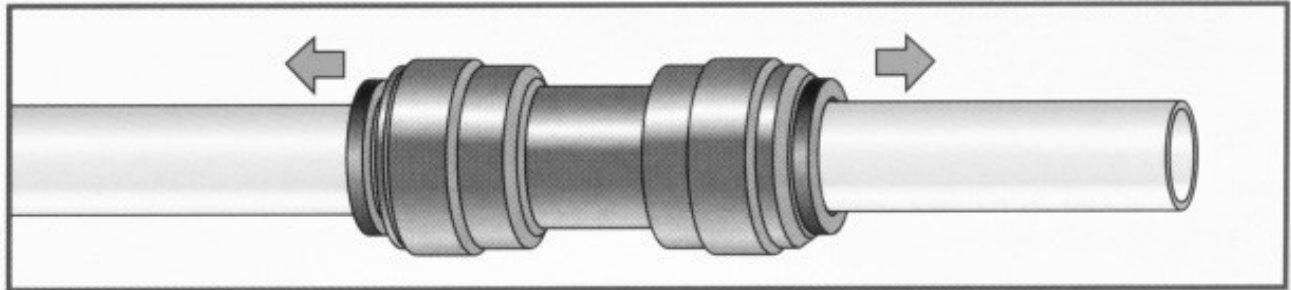
USING QUICK CONNECT FITTINGS

Insert tube Push up to tube stop



Push the tube into the fitting, to the tube stop. The collet (gripper) has stainless steel teeth which hold the tube firmly in position while the 'O' ring provides a permanent leak proof seal.

Pull to check secure



Pull on the tube to check that it is secure. It is a good practice to test the system prior to leaving site and/or before use.

3. Install drain saddle clamp and drain line – Identify a vertical section of drainpipe with enough space to mount the drain saddle clamp. NOTE: A horizontal section of pipe is less desirable but can be used provided the drain saddle opening flows downward into the pipe, like a manhole drops down into the sewer. DO NOT mount the drain saddle between the P-trap and the wall. The drain pipe material can be either metal or plastic. Locate drain hole template supplied with drain saddle clamp, and peel off its backing. Place the template on the previously identified location of drainpipe for the drain saddle clamp. Place 1/4" drill bit inside template hole, and drill a hole into the drainpipe. Drill through one side only. DO NOT drill a hole clean through both sides of the drainpipe. This will result in a leak, and require replacement of that piece of drainpipe. Mount the drain saddle clamp on top of the template with the holes aligned. You may use a screwdriver to align the holes. Fit drain saddle clamp back-plate and screws. Alternate tightening screws on each side of the drain saddle clamp to ensure an even, snug fit.



MOUNTING ORIENTATION



CORRECT



INCORRECT

3a. Mounting Permeate Pump (optional) – Mount permeate pump side by side with the Home Master® RO using supplied mounting clip and screws. **IMPORTANT: permeate pump must be mounted with indicator arrow pointing up. Indicator arrow is the large, center arrow. See mounting orientation diagram below.**

3b. Install refrigerator kit (optional) – Installation may vary according to make, model, and age of your refrigerator. Make sure refrigerator icemaker and water center are turned OFF. Clean area below and around refrigerator thoroughly. Use care when

rolling out refrigerator. Flooring may become scratched, gouged or damaged from moving refrigerator. Consult your local licensed contractor or plumber for trimmed-in refrigerators, or refrigerators without rollers. Roll out refrigerator. Unplug refrigerator electric plug. Locate water line in for refrigerator. (Yours may already be connected to a water line from wall. If so use local angle-stop to shut off water. Disconnect female fitting.) Plan the route for the water line from the Home Master® RO. Drill 1/4" holes through the lower cabinetry, high along the back wall just below the drawers. Make sure cabinet contents are removed, prior to drilling, and 1/4" tubing does not come into contact with drawers, doors, or sharp objects. Smooth the

holes free from splinters and sharp edges. [Alternate route for refrigerator line -- run ¼" refrigerator tubing along the baseboard, and enter the kitchen sink cabinet by drilling a ¼" opening in the bottom board of your kitchen sink cabinet, towards the front baseboard.] Push tubing through the cabinetry holes from the Home Master® RO to refrigerator. Allow 2-4' of extra tubing at the refrigerator, and position it so that it cannot be crushed or otherwise damaged while rolling the refrigerator. Connect the female metal fitting from the refrigerator kit to the male metal fitting on the refrigerator. Make sure all male metal fittings are thoroughly Teflon taped to prevent leaks. Do not roll back refrigerator until the Home Master® RO is fully installed and operational. **IMPORTANT:** Make sure shut off valve on the refrigerator connection kit at the Home Master® RO is in the CLOSED position, where the blue handle will be perpendicular to the body until after the fill and drain procedure has been performed at least twice. Also remember to dump the remaining ice and flush the water center prior to use.

4. Mount the Home Master® RO - Identify location for installing mounting clips for the Home Master® RO filter cluster. Location should allow room for the reserve tank, for connecting and disconnecting the unit, and enough room for performing general service on the unit. Typical locations are on either right or left side, near the back wall. Use supplied mounting clips and mounting template located inside back cover. Home Master® RO should be mounted vertically where the drain line out is on the bottom of the Home Master® RO. Once mounted, insert ORANGE 1/4" tubing into EZ adapter used in step 2.

—> VIDEO INSTALLATION INSTRUCTIONS AVAILABLE ONLINE <—

5. Connect System to RO faucet – Insert BLUE 3/8" tubing into RO faucet adapter. Push tubing all the way in, then pull back gently to check fit. Most push-pull fittings take about a ¼" of tubing inserted into them.

6. Install reserve tank and connect reserve tank tubing – Using eyedropper or a small spoon, place a few drops of unscented (regular) bleach inside the 1/4" threaded water nipple at the top of the storage tank. Wait 2 minutes then shake out into sink. DO NOT touch the air nipple near the bottom of the tank found under a blue cap. **IMPORTANT:** Wrap white plumbers pipe tape 5 times around the 1/4" water nipple on top of the reserve tank. Hand tighten the reserve tank shut off valve to the 1/4" water nipple until it is snug. **Do not over tighten.** Insert BLACK 3/8" tubing into the tank shut off valve. Push tubing all the way in, then pull back gently, to check fit. Most push-pull fittings take about a ¼" of tubing inserted into them. Make sure reserve tank shut off valve is in the CLOSED position, where the blue handle is perpendicular to the body and tubing. Affix product label found in the parts bag to the top of the reserve tank.



Typical Maintenance Schedule*		MODEL				
Maintenance Item	TM	TMA	TMAFC	TMIRON	TMULTRA ⁺	TMHP ⁺
ISetTM8	Anually					
ISetTMA8		Anually	Anually			
ISetTMFe8				Anually	Year 3	
ISet-TMUL-MY12					Year 1 & 2	
Iset-TMHP-MY12						Year 1 & 2
UVFilter3					Year 3	Year 3
ISetTMFe8-A						Year 3
Mem-TFC50	3-5 years	3-5 years	3-5 years	3-5 years	3-5 years	3-5 years
Inspect tubing and fittings for leaks & wear	Anually	Anually	Anually	Anually	Anually	Anually
Check tank pressure to 7 psi	Anually	Anually	Anually	Anually	Anually	Anually
Sanitize System	Anually	Anually	Anually	Anually	Anually	Anually
* The filters and UV bulb are changed every year on UV equipped system, every 3rd year the entire UV module is changed.Then restart the cycle.						
*Based upon family of four; 70F, 77psi, 250 ppm nacl TDS, <10 gpg hardness, 0 iron bacteria. Your results may vary.						
*Subject to change without notification						

check each connection point until you find the blockage point. At each point - turn off the water at the EZ adapter and tank, and briefly turn on the RO faucet at the sink to relieve any system pressure. Disconnect the tube from the fitting. Point the tube you have just disconnected into a pitcher and turn on the EZ adapter valve.

Poor Taste The first step is to purge the system. Close the system feed valve and open the RO faucet like you were getting a drink of water. Leave the RO faucet in the open position until the water stops flowing completely. Then open the feed valve, close the RO faucet and allow the system to refill.

If the poor taste persists, then review your maintenance service record, and also consider that if your usage is higher than normal, you may have exceed your filter life and require a filter or a membrane change. Changing the filters or membrane is the most common course of action to resolve a poor taste problem.

The next step in assessing a poor taste problem is checking for the correct flow rate from the RO faucet and from the drain line. Here are the steps:

With the feed valve to the system open, and the tank valve closed, please open the RO faucet like you were getting a drink of water. The water flow should settle at a pinpoint thin trickle of water that is either steady or if you have a permeate pump, it should fluctuate in conjunction with the pump's action. Please note the flow rate and continue on to the next step while leaving the RO Faucet open.

With a bowl and towel in hand please remove the red line from the drain saddle. There is a black nut there that you can loosen by hand. There should be water present, so point the line into a bowl. Please note the flow rate. The flow rate should be equal to, or greater than, the flow from the RO Faucet. Please note the flow rate. Also inspect the opening of the red line and the opening into the drain saddle for any obstructions or inserts. Both should be wide open without obstruction.

Please report your findings to our support team. Also please note as to whether you have city water or a private well on your land.

No water or ice from refrigerator water center Make sure line from Home Master® RO to refrigerator has pressure. Make sure refrigerator water center and/or icemaker are turned ON, and refrigerator is plugged in. If water center works, but icemaker does not, then defrost the freezer as the line may have frozen.

Discoloration of water The first batch of water produced from your purification system may be discolored due to the presence of carbon from the carbon filters, and a small amount of preservative. This is normal. DO NOT drink the first 6.5 gallons of water.

7. Connect drain line tubing — Locate the black plastic nut found in drain saddle parts bag. Press it onto the RED 1/4" tubing attached to the filter cluster. The red tubing should protrude from the black plastic nut slightly. Wrap excess tubing around the drainpipe so that some loops are above the drain saddle. Hand tighten black plastic nut onto the drain saddle male fitting until it is snug. Do not over tighten and DO NOT add a tubing insert.

8. Pressurize the Home Master® RO - For Home Master® RO UV equipped systems first connect power adapter to UV filter so the UV filter cap glows. If unit fails to illuminate, then check power outlet with a known good device like a lamp. Many undersink outlets are switched. Make sure unit is dry. Double check to make sure all valves are in the closed position, except for the main angle-stop valve, which should be open. Water should flow normally from your kitchen faucet. SLOWLY open the EZ adapter ball valve. You should hear water rushing through the system. Open the RO faucet to by flipping the lever up, where it should stay open. A **trickle of water** should be present after 2-20 minutes. Some blackening of the water may present due to loose carbon being flushed out. Close the lever on the RO faucet after the trickle runs clear, and allow the system to pressurize. When the system has pressurized and shut off - check for leaks. The open the reserve tank valve slowly. Allow reserve tank to fill for 2.5 hours or until full. **Reserve tank is full when the hissing or clicking noise stops.**

9. Fill and Drain Procedure—First close the EZ adapter ball valve so that the system is no longer producing new water, then open the RO faucet. Let the water run out until it comes to a COMPLETE STOP. Close RO faucet. Open the EZ adapter ball valve and let the system refill, then repeat this step. System must be flushed at least twice prior to use. Some harmless fine air bubbles may be present and will dissipate with time and use. [OPTIONAL-Following successful fill and drain procedure you may plug in refrigerator electric plug; open refrigerator connection kit ball valve so that the blue handle is parallel with the white body. Make sure refrigerator icemaker and water center are turned ON. Check for leaks. Check for pressure at the refrigerator's water center. Dispose of the first two batches of ice after installation and flush the water center until the water runs clear and is at room temperature. Use caution when rolling refrigerator back into place. DO NOT crimp or crush water line, as a leak will likely develop.]

TUBING COLOR CODING

ORANGE—LINE IN
RED—TO DRAIN

BLACK—TO STORAGE TANK
BLUE—TO RO FAUCET

Troubleshooting

IMPORTANT NOTE: Before performing service on the Home Master® RO at any time, and for any reason: first close all under-sink water valves, except for the RO faucet, which you should open to relieve system pressure and drain away excess water from the lines. Push-pull and quick connect fittings are nearly impossible to remove when under pressure.

Leaks from metal fittings Unscrew fittings and re-tape male fitting. Tape should be wound 5-7 times around male thread. Tape should not cover opening. Use only Teflon tape. Re-tighten fitting securely. Over tightening can crush the tubing insert and cause a **water blockage**.

Leaks from plastic fittings Plastic fittings should be firmly finger tightened. Under tightening can result in leaks, over tightening can crush the tubing and result in a **water blockage**. For plastic fittings only; make sure the plastic tubing has an insert in the tube end, and a feral (oring which compresses the tubing around the insert) in the plastic female fitting. Drain tubing does not need an insert.

Leaks from push-pull or quick connect fittings Disconnect fitting by depressing the collet ring on the fitting with one hand and pulling out the tubing with the other hand while the collet ring is still depressed. Tubing cannot be pulled out without depressing the collet ring, and relieving system pressure. Make sure the tubing is cut is straight, the edge is completely smooth, and the tube is rounded. Scratched, gouged, damaged, or oblong tubing end will leak. Re-insert the tubing into the push-pull fitting. Push tubing all the way in, then pull back gently, to check fit. Most push-pull fittings take about a 1/3" of tubing inserted into them.

Fine Air Bubbles/Grey Tinted Water: tiny air bubbles often accompany a new system installation and filter changes. Air becomes trapped inside the tiny carbon pores and is released over time, not gallons. After pouring a glass of water, allow a few seconds for the water to clear. Enjoy!

Noises: Hissing or flowing sounds from Home Master® RO are normal during the water purification process. Sounds should last for approximately 1 hour per gallon of water used. Sounds should stop once the reserve tank is full. Permeate pump equipped systems will "click" and "whoosh." IF the clicking from the permeate pump is troublesome, then place some insulating material between the mounting clip and the wall, such as a rubber jar mat. A **GROANING** sound upon start-up indicates air bubbles in the automatic shut off valve. This will go away with time or your can pull the Home Master® RO off of its mounting clips and rotate it 90° left and hold it there for 10 minutes, then rotate it 180° right and hold it there for 10 minutes while the system is operating in order to pass the air bubbles. Repeat as needed.

Gurgling noises from the drain can be present during normal operation. Sounds should last for approximately 1 hour per gallon of water used. If the noise is troublesome there are a

few things you can do. A) Disconnect the red drain line from the drain saddle, adjust the red tube protruding from the nut (add a little more or reduce it), while ensuring there is at least some visible red tube protruding, and reconnect. B) Empty your P trap to ensure the system waste water isn't dropping into standing water. C) Use a common rubber stopper to cover your sink's drain opening to muffle the sound.

Weak pressure at RO faucet & Reserve tank filling slowly

NOTE: Seasonal changes in temperature can cause pressure imbalances within the system resulting in slow water production. Oftentimes the imbalance will correct itself on its own within a few days. You may also restore the internal system pressure balance by draining the tank, unplugging the tubing from the automatic shut off valve (ASV—shown to the right), then allow the system to stand open overnight. Then reconnect, open the feed valve, and allow the tank to refill.



Weak pressure is either a storage problem or a production problem. To determine which close the tank valve and open the RO faucet. After a brief burst, you should see a steady thin trickle of water, or a trickle that pulses on and off -if you have the permeate pump. If this is what you see then it's a storage tank problem. If you see zero water, or only a few broken drops then it's a production problem.

Storage tank problems:

1. Make sure storage tank is full, and has been flushed at least twice.
2. Make sure the angle-stop is wide open.
3. Check all tubing for kinks or sharp bends - this can impede the flow of water.
4. Check reserve tank air pressure. Tank MUST be empty of water, tank valve OPEN, system feed valve CLOSED and RO faucet OPEN. Air valve is located on the side of the tank under a cap. Use a bicycle tire pressure gauge. Tank should have 7.5 psi when empty of water. If the pressure is less, then add air using a bicycle pump. Do not overfill. If the tank does not hold the air then the tank is bad and should be replaced

Production problems

1. Check flow to the membrane housing. Close water at the feed water adapter and tank, and briefly open the RO faucet at the sink to relieve any system pressure. Then pull the black tube out of the top of the blue membrane housing at the quick connect fitting. (There is only one fitting on the top of the membrane housing, the bottom has two - one white, one grey). Point the tube you have just disconnected into a pitcher and turn on the EZ adapter valve. The water flow from the tube should be fairly strong.
2. If the flow to the membrane housing is strong, then check the water flow exiting both the white elbow and the grey elbow at the bottom of the membrane housing. The water flow from the white elbow should be a thin, but steady trickle, and the flow from the grey elbow should be greater than the white elbow . If the flow from the grey elbow is less than the white than it should be replaced. If there is no flow from either then change the membrane and the grey elbow. **Please note that the minimum water pressure for the system to operate is 40psi.** Also remember to inspect your drain line where the red tube connects to the drain saddle, and you can also unscrew the grey elbow at the bottom of the membrane housing. If gunk is obstructing the drain line, then the system cannot produce good water.
3. If the flow to the membrane housing is weak, then start working your way backward and